

ABSTRACT

A carbon black producing apparatus comprising a first reaction zone (1) where an oxygen-containing gas and fuel are supplied into the reactor and burned to form a combustion gas flow, a second reaction zone (2) disposed downstream of the first reaction zone and having a feedstock hydrocarbon feed port or ports for supplying a feedstock hydrocarbon to the combustion gas flow, whereby the feedstock hydrocarbon is reacted to produce carbon black, and a third reaction zone (3) disposed downstream of the second reaction zone and designed to stop the reaction, wherein in the first reaction zone, fuel feed port(s) (5) and oxygen-containing gas feed port(s) (6) are provided independently spaced-apart from each other and opened into the reactor from the same side thereof. According to such a carbon black producing apparatus, in carrying out efficient production of carbon black of smaller particle size with narrower agglomerate diameter distribution, it is possible to restrain damage to the reactor wall refractory in the combustion section, to effect perfect combustion of the fuel at as high a temperature as possible and an air ratio close to 1, and to suppress discharge of NOx.